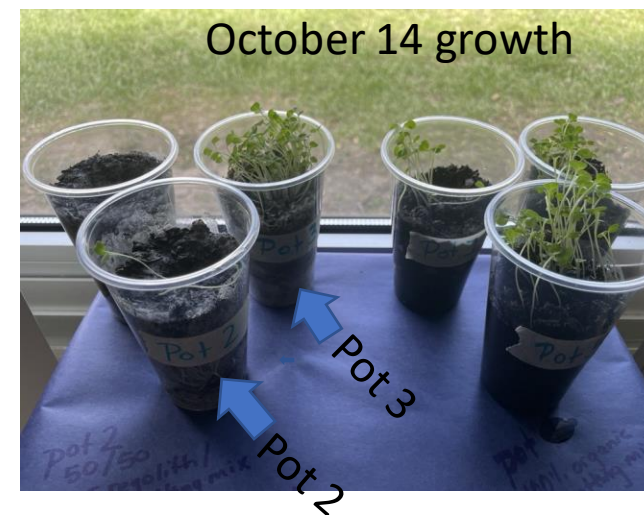




**Gators B**  
Team 11043  
Riverview Elementary School  
5<sup>th</sup> Grade  
Riverview, FL  
Plant the Moon Challenge

**What soil additive is best for growing arugula in lunar regolith?**



### 1. Hypothesis:

Our team believes pot 2 will grow the tallest arugula because the lunar regolith is a fine, powdery substance so the fertilized potting mix will help provide the essential nutrients arugula needs to grow .

### 2. Independent Variables:

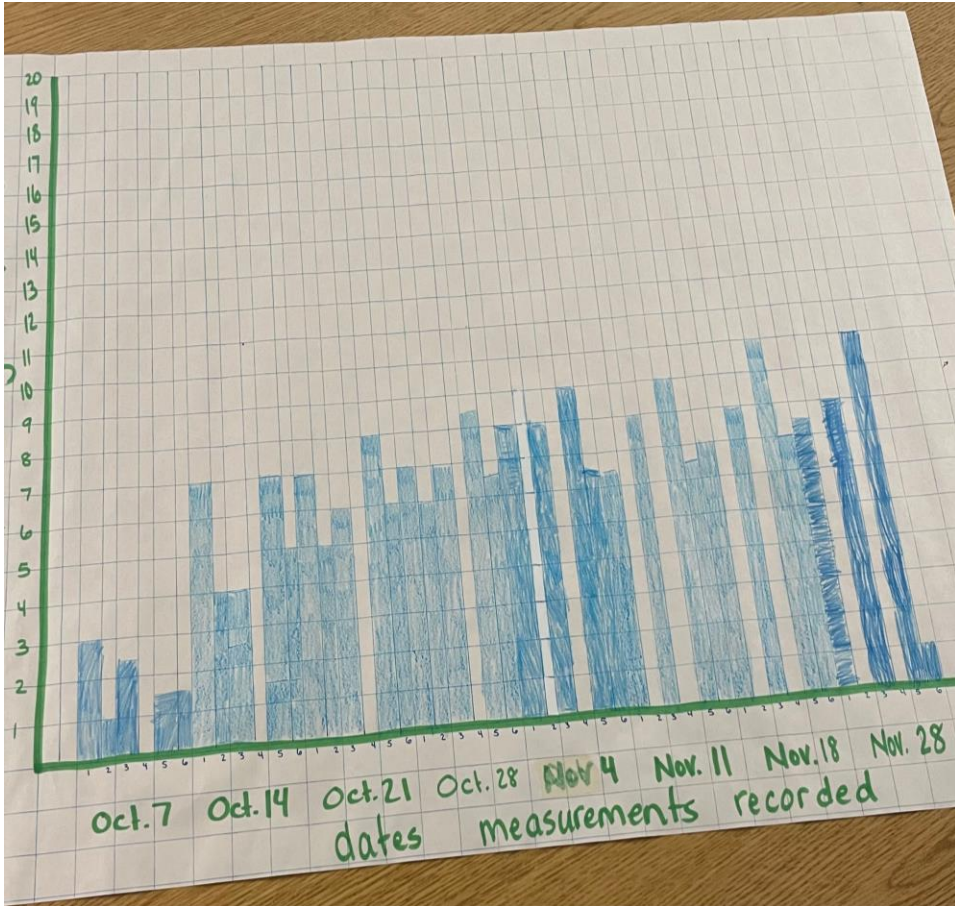
- 50% lunar simulant / 50% organic potting mix
- 50% lunar simulant / 50% fertilized potting mix
- 50% lunar simulant / 50% black Kow Organic Cow Manure



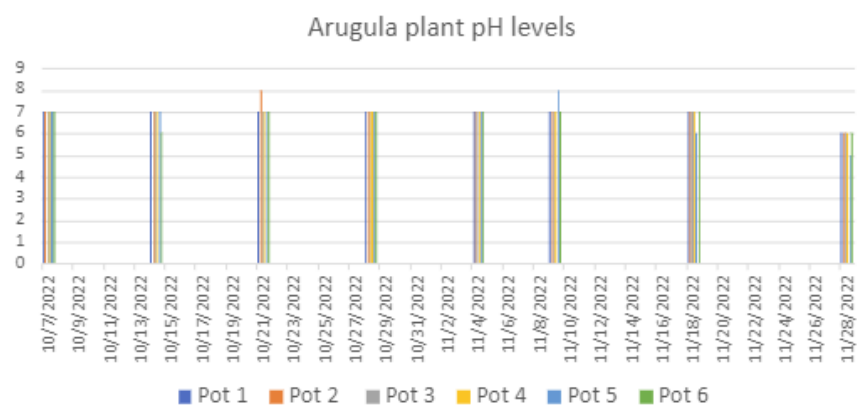
### 3. Dependent Variables:

- Arugula growth

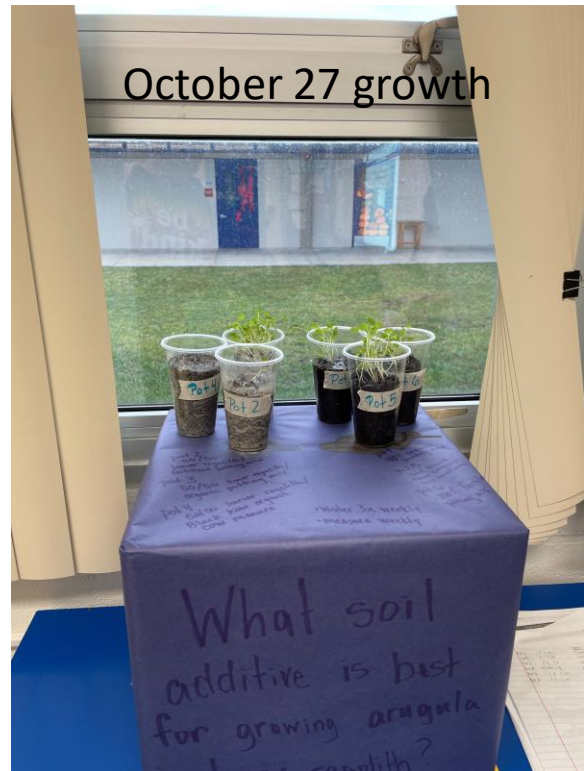
How tall with our arugula grow?



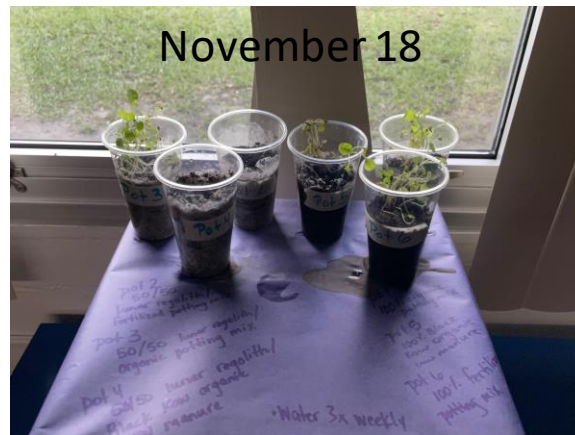
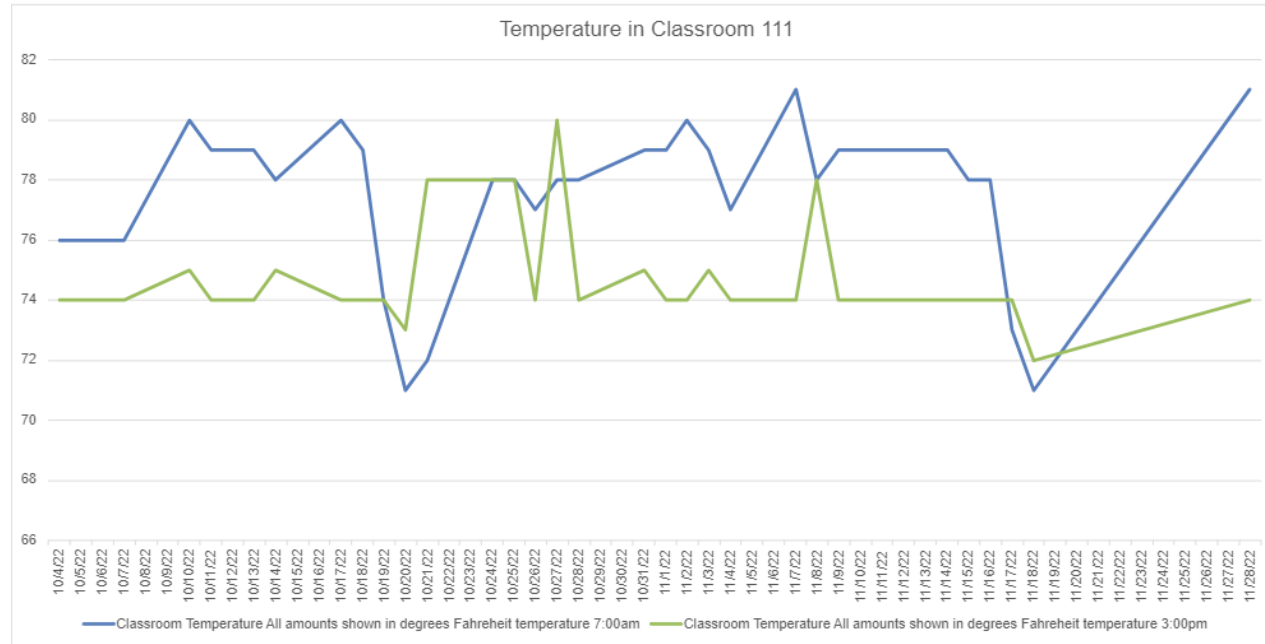
#### 4. Measurements:



date	Pot 1	Pot 2	Pot 3	Pot 4	Pot 5	Pot 6
10/7/2022	7	7	7	7	7	7
14-Oct	7	7	7	7	7	6
21-Oct	7	8	7	7	7	7
28-Oct	7	7	7	7	7	7
4-Nov	7	7	7	7	7	7
9-Nov	7	7	7	7	8	7
18-Nov	7	7	7	7	6	7
28-Nov	6	6	6	6	5	6



Date	temperature 7:00am	temperature 3:00pm
10/4/22	76	74
10/5/22	76	74
10/6/22	76	74
10/7/22	76	74
10/10/22	80	75
10/11/22	79	74
10/12/22	79	74
10/13/22	79	74
10/14/22	78	75
10/17/22	80	74
10/18/22	79	74
10/19/22	74	74
10/20/22	71	73
10/21/22	72	78
10/24/22	78	78
10/25/22	78	78
10/26/22	77	74
10/27/22	78	80
10/28/22	78	74
10/31/22	79	75
11/1/22	79	74
11/2/22	80	74
11/3/22	79	75
11/4/22	77	74
11/7/22	81	74
11/8/22	78	78
11/9/22	79	74
11/14/22	79	74
11/15/22	78	74
11/16/22	78	74
11/17/22	73	74
11/18/22	71	72
11/28/22	81	74



November 18



## Controls:

- 100% organic potting mix
- 100% fertilized potting mix
- 100% black Kow Organic Cow Manure
  - Arugula seeds
  - 20 ml tap water

**Results:** Our hypothesis was that Pot 2 would grow the best because we thought the fertilized potting mix will help provide the essential nutrients since the lunar regolith is a fine powdery substance with not many nutrients for plant life. However, that was not the case as our pot 2 started to show signs of dying off around the beginning of November in the fifth week of growing. It was pot 3 with the organic potting mix that proved to be the most successful. Pot 4 grew along in the middle of the cup but didn't ever sprout up through the top of the layer of soil and lunar regolith. Our pots persevered through two hurricanes breaks and our grow period would have ended on November 21 but since we had that week off from school, we recorded the data on Friday November 18 and then again after our break on November 28. The week off school in which our classroom blinds were closed allowing minimal amount of light for the plants along with no water had detrimental effects on the final data collection. One important piece we learned was that the organic potting soil proved to grow our arugula more successfully than the fertilized potting soil and the black Kow manure brand.

**We planted the moon!!!!**



November 18

